



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/591,042

08/29/2006

Kelly A. Gonzalez

63097A

6485

35503

7590

09/21/2007

UNION CARBIDE CHEMICALS AND PLASTICS TECHNOLOGY  
CORPORATION

P.O. BOX 1967

MIDLAND, MI 48641-1967

EXAMINER

LU, C CAIXIA

ART UNIT

PAPER NUMBER

1713

MAIL DATE

DELIVERY MODE

09/21/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/591,042

Applicant(s)

GONZALEZ ET AL.

Examiner

Caixia Lu

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 12-15 and 23-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 16-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 4/2/07.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Group I, claims 1-11 and 16-22, in the reply filed on July 26, 2007 is acknowledged.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-11 and 16-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In at least claims 1 and 16, Applicant has failed to provide the metes and bounds of the limitation of "metathesis reaction condition", which render all of the pending claims indefinite.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-7, 9, 11, 16-19, 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Kojoh et al. (US 6,323,150).

The instant claims are directed to a process for preparation of a solid procatalyst composition comprising (a) contacting a magnesium compound, a halogenating agent

Art Unit: 1713

such as titanium tetrachloride and an internal electron donor such as a aromatic ester and separating the solid reaction product to provide a solid precursor composition; (b) optionally contacting the solid product of step (a) with a halogenating agent in a reaction medium such as chlorobenzene one or more time and separating the solid reaction product; (c) contacting the solid reaction product of step (a) or (b) with a halogenating agent and a second electron donor of an aliphatic ether to provide a procatalyst; and (d) recovering the solid procatalyst composition.

Kojoh teaches a process for preparation of a solid titanium catalyst component comprising two internal electrons donors wherein the electrons donors are selected from the groups consisting of polycarboxylic ester and polyether (col. 3, line 55 to col. 4, line 6; col. 5, lines 27-30; col. 6, lines 16-31; and col. 8, lines 41-56). Kojoh's Example 7 in col. 23 demonstrate a process for preparation of a solid titanium catalyst component comprising (i) contacting magnesium chloride, 2-ethylhexyl alcohol, phthalic anhydride, titanium tetrachloride, and 2-isopropyl-2-isobutyl-1,3-dimethoxypropane (PBDME) to provide a solid product and separating the solid product by hot filtration; (ii) treating the solid product with titanium tetrachloride and PBDME, and separating the solid by hot filtration; and treatment is repeated one more time; (iii) separating the solid product and washing the solid product sufficiently with decane at 110°C, and washing the solid with hexane at room temperature until no titanium compound liberated in the washing liquid was detected.

Kojoh's teaching anticipates the instant claims.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-7, 9, 11 and 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojoh et al. (US 6,323,150).

Kojoh's teaching is relied upon as shown above. It is noted that Kojoh does not expressly teach extracting the solid titanium catalyst component at a temperature between 120°C to 150°C. However, it is understood that the extraction temperature is depended the solvent used and the most effective extraction temperature is the boiling temperature of the solvent. Therefore, when a solvent such as chlorobenzene (b.p. of 132 °C) and xylene (b.p. of 144 °C) is used, one would have conducted the extraction (washing) at a temperature as high as the boiling temperature of the solvent to most effectively extract the titanium solid components.

Thus, it would have been obvious to a skilled artisan at the time the invention was made to employ Kojoh's teaching to prepare a solid titanium catalyst component by the process as shown above since such is within the scope of Kojoh's teaching and in the absence of any showing criticality and unexpected results.

Art Unit: 1713

***Allowable Subject Matter***

8. Claims 8 and 10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The cited prior art does not teach or suggest the internal electron donor to be a (poly)alkylene glycol monoalkylether and its specific species of tri(propylene glycol) monomethylether.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (571) 272-1106. The examiner can normally be reached from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful and the matter is urgent, the examiner's supervisor, David Wu, can be reached at (571) 272-1114. The fax numbers for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1700.



Caixia Lu, Ph. D.  
Primary Examiner